Quick Start Guide
Learning IR TVM-1600

Overview

The TVM-1600 Managed TV Distribution Hub is the central node of the system that converts the multi-channel RF input to user selectable video channels for distribution using the standard building infrastructure (FIG. 1).

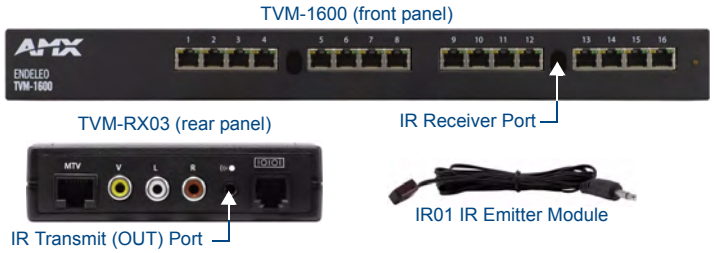

FIG. 1 Components Required for IR Learning

The Endeleo Managed TV solution supports the learning of the Infrared (IR) control protocols of the end display devices.

For example it is possible from the central hub hardware to issue a remote IR request and place the screen in standby, or switch to an alternative AV input.

When used in conjunction with the Endeleo Managed TV Server software these events can be scheduled to occur at predetermined times / dates.

Important Notes

- The IR learning is carried out at the TVM-1600.
- Care should be taken to shield the TVM-1600 from other IR devices during the learning process.
- The IR protocol once learned is stored on the TVM-RX03. Care should therefore be taken when moving receive units between different end devices.

Components Required for IR Learning

- TVM-1600 (Managed TV Hub - FGTVM-1600, FG-TVM-1600PSC)
- TVM-RX03 (Managed TV Pro Receiver - FG-TVM-RX03)
- IR01 (IR Emitter Module - FG-IR01)

Configuration

1. A console session needs to be opened on the Managed TV hub.
   The configuration settings for the Terminal session are:
   - **Baud Rate:** 9600 bps
   - **Data Bits:** 8
   - **Parity:** None
   - **Stop Bits:** 1
   - **Flow Control:** None

   login using the hub password.
2. Connect the TVM-RX03 port 1 of the TVM-1600.

***Note**: Any port can be used; the following commands assume port 1.*

Learning the IR Protocol Used By the Device

The first stage is to learn the IR protocol used by the display device:

1. At the hyperterminal command prompt, enter the following:
   `r init 1`
   The process will then guide you through what to do. Pointing the remote control at the IR port on the front of the hub (FIG. 2):

```
initialise ir key code learning sequence for port 1
press key on remote control ..._
```

FIG. 2 Hyperterminal - Initialise IR Key Code Sequence prompt

2. The system will now interpret the protocol used by the end device and the associated timings of the protocol.
3. The process will then request that you press and hold the key on the remote.
   - This enables the IR learning process to sample the repeat sequence used by display device.
   - The key should be released after holding it down for a couple of seconds.
4. An IR initialisation complete statement will be delivered once the hub has successfully completed the IR learning process.

Associating Commands To Keys On The Remote Control

The next stage of the IR learning process is to associate known commands to specific keys on the remote control.

Learning the command is achieved using the following command

`r XX Y`

XX is the IR code from the table adjacent,
Y is the port number of the receive unit.

***Note**: Depending on the length of the IR codes, a maximum of 8 codes can be stored.*

Once an IR protocol has been learned for a specific port it can simply be copied across to other ports using the tftp application and the network port.

At the DOS command prompt use the following command.

`tftp -i [IP address of hub] GET irtable.001`

irtable is the user defined name given to the IR code on port 1
the **.001** file extension relates to the port number.

***Note**: IR files must start with an **'i'** to indicate they are infrared files.*

Loading a Previously Saved IR Table

At the command prompt navigate to the location that the IR table is saved and use the following command.

`tftp -i [IP address of hub] PUT [name of ir table].XX`

Where **XX** is the port number of the receive unit.

Endeleo IR Codes

The following is a list of IR Codes used by Endeleo in learning serial or IR controls for display devices.

***Note**: An asterisk in the Description column for any IR Code in this table indicates that the command will require custom code (since the command is not represented in the Actions list.*

For example, “AV SELECT 1" is available in the *Action* drop-down menu (see “A/V Sel”), and needs no custom code reference. However, a custom command like “AV SELECT 2" would be only be accessed by Custom 31, since this command is not represented in the *Action* drop-down menu options.

IR code	Description	IR code	Description
0-9	Keys 0 to 9	52	Cursor up *
10	Channel up *	53	Cursor down *
11	Channel down *	54	Cursor left *
12	Power Off	55	Cursor right *
13	Mute	56	Esc
14	Volume up	57	Info
15	Volume down	58	Help *
16	Program up	59	Teletext *
17	Program down	60	Services *
18	10+ key (for two digit channel entry)	61	Box office *
20	Channel restore (back) *	62	Interactive *
21	Power On	63	TV guide *
30	A/V select 1	64	Red *
31	A/V select 2 *	65	Green *
32	A/V select 3 *	66	Blue *
40	Device select (DVD/VCR) *	67	Yellow *
41	Enter *	70	Play
42	Clear *	71	Pause
44	TV Input *	72	Stop
45	TV Power *	73	Record
46	Live TV *	74	Fast forward
47	Thumbs up *	75	Rewind
48	Thumbs down *	76	Slow *
50	Menu	80	Select pass through *
51	Select Function	81	Cancel pass through *
		90 -99	Custom 1 - Custom 10

Additional Documentation

Refer to the *TVM-1600 Operation/Reference Guide* (available online at **www.amx.com**) for detailed information on configuring the TVM-1600 (including (Devices, Port Control, and Messaging), TVM-RX03 receivers and source devices.

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